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| 10/626,224 | 07/24/2003 | William O. Camp JR. | 9314-45 | 4546 |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) |
| --- | --- | --- |
| | 10/626,224 | CAMP, WILLIAM O. |
| | Examiner | Art Unit |
| | EUGENE YUN | 2618 |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *21 December 2007*.
2a)☒ This action is **FINAL**.          2b)☐ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-3,7-10,12-16,19-22 and 27-29* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-3,7-10,12-16,19-22 and 27-29* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *24 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

# DETAILED ACTION

## *Claim Rejections - 35 USC § 103*

1.     The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

2.     Claims 1-3, 7-10, 15, 16, 19-22, and 27-29 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Rasmusson (WO 00/74350) in view of El-Maleh et al. (US

7,023,880).

Referring to Claim 1, Rasmusson teaches a wireless terminal, comprising;

a short-range communication module that is configured to communicate first

information over a short-range wireless interface with a communication device (see

communication between 201 and 203 in fig. 2);

a cellular transceiver that is configured to communicate second information with

a cellular network according to a cellular communication protocol (see 225 and 227 of

fig. 2); and

a short range communication module (see pg. 15, lines 3-10).

Rasmusson does not teach a processor that is configured to encode voice in the

second information using at least one of an Enhanced Full Rate (EFR) codec and an

Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver according

to a signal processing operation, and is configured to selectively encode voice in the

first information using at least one of the EFR codec and the AMR codec for

communication by the communication module using the signal processing operation

based on whether the communication device supports an enhanced communication

mode.

El-Maleh teaches a processor that is configured to encode voice in the second

information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive

Multi-Rate (AMR) codec for transmission by the cellular transceiver according to a

signal processing operation (see col. 5, lines 30-44), and is configured to selectively

encode voice in the first information using at least one of the EFR codec and the AMR

codec for communication by the communication module using the signal processing

operation based on whether the communication device supports an enhanced

communication mode (see col. 8, line 62 to col. 9, line 21). Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to

provide the teachings of El-Maleh to said device of Rasmusson in order to improve the

voice quality in variable rate communications.

Referring to Claim 3, Rasmusson teaches a wireless terminal, comprising:

a Bluetooth module that is configured to communicate first information with a

remote Bluetooth device (see communication between 201 and 203 in fig. 2 and pg. 14,

line 30 to pg. 15, line 10);

a cellular transceiver that is configured to communicate second information with

a cellular network according to a cellular communication protocol (see 225 and 227 of

fig. 2); and

a Bluetooth module (see pg. 15, lines 3-10).

Rasmusson does not teach a processor that is configured to encode voice in the second information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver, and to selectively encode voice in the first information using at least one of the EFR codec and the AMR codec for communication by the module based on whether the remote device supports an enhanced communication.

El-Maleh teaches a processor that is configured to encode voice in the second information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec for transmission by the cellular transceiver (see col. 5, lines 30-44), and to selectively encode voice in the first information using at least one of the EFR codec and the AMR codec for communication by the module based on whether the remote device supports an enhanced communication (see col. 8, line 62 to col. 9, line 21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of El-Maleh to said device of Rasmusson in order to improve the voice quality in variable rate communications.

Referring to Claim 15, Rasmusson teaches a method of operating a wireless terminal, comprising:

determining whether a remote Bluetooth device supports an enhanced communication mode (see pg. 14, line 30 to pg. 15, line 10); and

communicating first information to a remote Bluetooth Device (see pg. 15, lines 11-32).

Rasmusson does not teach selectively encoding voice in first information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec according to a signal processing operation for communication to the remote device based on whether the remote device supports an enhanced communication mode. El-Maleh teaches selectively encoding voice (see col. 8, line 62 to col. 9, line 21) in first information using at least one of an Enhanced Full Rate (EFR) codec and an Adaptive Multi-Rate (AMR) codec according to a signal processing operation for communication to the remote device based on whether the remote device supports an enhanced communication mode (see col. 5, lines 30-44). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of El-Maleh to said device of Rasmusson in order to improve the voice quality in variable rate communications.

Referring to Claim 2, Rasmusson also teaches the short-range communication module is configured to communicate the first information according to a Bluetooth communication protocol (see pg. 14, line 30 to pg. 15, line 10).

Referring to Claim 16, El-Maleh also teaches encoding voice in second information using at least one of the EPR codec and the AMR codec according to the signal processing operation for transmission to a cellular network (see col. 5, lines 30-44).

Referring to Claims 7 and 19, Rasmusson also teaches the first information comprises audio information, and wherein the processor is further configured to cancel echo in the audio information (see pg. 17, lines 28-31) for communication by the

Bluetooth communication module using a same signal processing operation that is used

to cancel echo in audio information in the second information communicated by the

cellular transceiver in response to the remote Bluetooth device supporting an enhanced

communication mode (see pg. 16, lines 1-15).

Referring to Claims 8 and 20, Rasmusson also teaches the first information

comprises audio information, and wherein the processor is further configured to reduce

noise in the audio information (see pg. 16, lines 27-30) for communication by the

Bluetooth communication module using a same signal processing operation that is used

to cancel echo in audio information in the second information communicated by the

cellular transceiver in response to the remote Bluetooth device supporting an enhanced

communication mode (see pg. 16, lines 1-15).

Referring to Claim 9, Rasmusson teaches a wireless terminal, comprising:

a Bluetooth module that is configured to communicate first information with a

remote Bluetooth device (see communication between 201 and 203 in fig. 2 and pg. 14,

line 30 to pg. 15, line 10);

a cellular transceiver that is configured to communicate second information with

a cellular network according to a cellular communication protocol (see 225 and 227 of

fig. 2).

Rasmusson does not teach a processor that is configured to convolutionally

encode the second information fro transmission by the cellular transceiver according to

a signal processing operation, and to selectively convolutionally encode the first

information according to the signal processing operation for communication by the

module based on whether the remote device supports an enhanced communication mode. El-Maleh teaches a processor that is configured to convolutionally encode the second information fro transmission by the cellular transceiver according to a signal processing operation, and to selectively convolutionally encode the first information according to the signal processing operation for communication by the module based on whether the remote device supports an enhanced communication mode (see col. 9, lines 6-21). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teachings of El-Maleh to said device of Rasmusson in order to improve the voice quality in variable rate communications.

Referring to Claim 10, Rasmusson teaches a wireless terminal, comprising:

a Bluetooth module that is configured to communicate first information with a remote Bluetooth device (see communication between 201 and 203 in fig. 2 and pg. 14, line 30 to pg. 15, line 10);

a cellular transceiver that is configured to communicate second information with a cellular network according to a cellular communication protocol (see 225 and 227 of fig. 2).

Rasmusson does not teach a processor that is configured to interleave the second information fro transmission by the cellular transceiver according to a signal processing operation, and to selectively interleave the first information according to the signal processing operation for communication by the module based on whether the remote device supports an enhanced communication mode. El-Maleh teaches a processor that is configured to interleave the second information fro transmission by the

cellular transceiver according to a signal processing operation, and to selectively

interleave the first information according to the signal processing operation for

communication by the module based on whether the remote device supports an

enhanced communication mode (see col. 7, lines 53-67). Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to provide

the teachings of El-Maleh to said device of Rasmusson in order to improve the voice

quality in variable rate communications.

Referring to Claim 21, Rasmusson teaches a method of operating a wireless

terminal, comprising:

Determining whether a remote Bluetooth device supports an enhanced

communication mode (see communication between 201 and 203 in fig. 2 and pg. 14,

line 30 to pg. 15, line 10); and

Communicating first information to a remote Bluetooth device (see pg. 5, lines

11-32).

Rasmusson does not teach selectively convolutionally coding first information for

communication to the remote device based on whether the remote device supports an

enhanced communication mode. El-Maleh teaches selectively convolutionally coding

first information for communication to the remote device based on whether the remote

device supports an enhanced communication mode (see col. 9, lines 6-21). Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was

made to provide the teachings of El-Maleh to said device of Rasmusson in order to

improve the voice quality in variable rate communications.

Referring to Claim 22, Rasmusson teaches a method of operating a wireless

terminal, comprising:

Determining whether a remote Bluetooth device supports an enhanced

communication mode (see communication between 201 and 203 in fig. 2 and pg. 14,

line 30 to pg. 15, line 10); and

Communicating first information to a remote Bluetooth device (see pg. 5, lines

11-32).

Rasmusson does not teach selectively interleaving first information for

communication to the remote device based on whether the remote device supports an

enhanced communication mode. El-Maleh teaches selectively interleaving first

information for communication to the remote device based on whether the remote

device supports an enhanced communication mode (see col. 7, lines 53-67). Therefore,

it would have been obvious to one of ordinary skill in the art at the time the invention

was made to provide the teachings of El-Maleh to said device of Rasmusson in order to

improve the voice quality in variable rate communications.

Referring to Claim 27, El-Maleh also teaches a processor that is configured to

convolutionally encode the second information fro transmission by the cellular

transceiver according to a signal processing operation, and to selectively convolutionally

encode the first information according to the signal processing operation for

communication by the Bluetooth module based on whether the remote Bluetooth device

supports an enhanced communication mode (see col. 9, lines 6-21).

Referring to Claim 28, El-Maleh also teaches a processor that is configured to interleave the second information fro transmission by the cellular transceiver according to a signal processing operation, and to selectively interleave the first information according to the signal processing operation for communication by the Bluetooth module based on whether the remote Bluetooth device supports an enhanced communication mode (see col. 7, lines 53-67).

Referring to Claim 29, El-Maleh also teaches selectively encoding the first information by selectively embedding control data in the first information based on whether the remote Bluetooth device supports an enhanced communication mode (see col. 12, lines 49-59).

3.    Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rasmusson and El-Maleh and further in view of Kim (US 2002/0065045).

Referring to Claim 12, the combination of Rasmusson and El-Maleh does not teach the remote Bluetooth device comprising a cordless telephone base station that is configured to be connected to a public switched telephone network (PSTN) 60 (fig. 2), and wherein the processor is configured to communicate through the Bluetooth module with the cordless telephone base station. Kim teaches the remote Bluetooth device comprising a cordless telephone base station that is configured to be connected to a public switched telephone network (PSTN), and wherein the processor is configured to communicate through the Bluetooth module with the cordless telephone base station (see paragraph [0023]). Therefore, it would have been obvious to one of ordinary skill in

the art at the time the invention was made to provide the teachings of Kim to the

modified device of Rasmusson and El-Maleh in order to better enhance the quality of

short range communications.

Referring to Claim 13, Rasmusson also teaches the processor is configured to

selectively embed control data in the first information based on whether the remote

Bluetooth device supports an enhanced communication mode, and wherein the control

data comprises a command to control operation of the cordless telephone base station

(see pg. 15, lines 11-32).

Referring to Claim 14, Kim also teaches the control data instructs the cordless

telephone base station to terminate a call on the PSTN (see paragraph [0023]).


### *Response to Arguments*

4.      Applicant's arguments filed 12/21/2007 have been fully considered but they are

not persuasive.

Regarding Claim 1, the applicant argues that the El-Maleh reference does not

teach a "short-range communication module". While the examiner may agree that the

El-Maleh reference does not necessarily teach Bluetooth technology, the claim does not

necessarily state how short the range is. The communications range in the reference

can be short compared to other communications systems which would mean that the

module in the El-Maleh reference is, in a way, a short range communications module

since the claim does not state how short the range is. The applicant also argues that the

El-Maleh reference does not teach "selectively encoding voice". The examiner believes

that col. 9, lines 10-15 clearly shows this limitation. Regarding the argument that the reference does not show "communication **terminal selectively switches between using/not using certain voice codecs** depending upon **whether it is communicating with another communication device that supports an enhanced communication mode**", the parts in bold are nowhere to be found in the claims. The examiner does not need to show that the El-Maleh reference teaches limitations such as "selectively switches between using/not using certain voice codecs" because that is not emphasized in the claims. Therefore, the examiner believes that the El-Maleh reference still teaches what the above rejection states that the reference teaches.

Regarding Claim 3, all the same above statements apply to this claim except that this claim teaches Bluetooth. Since the examiner showed that in claim 1, the El-Maleh in a way, teaches short range communications, and since the Rasmusson reference clearly teaches Bluetooth, it would be obvious to combine the two references in order to implement Bluetooth from Rasmusson to the system of El-Maleh in order to improve the voice quality and increase compatibility between two systems in variable rate communications. The same response to arguments regarding Bluetooth applies to claims 9, 10, 15, 21, and 22.

Regarding claims 9 and 10, the applicant argues that the El-Maleh reference does not teach "selectively convolutionally encoding the first information according to the signal processing operation for communication by the module based on whether the remote device supports an enhanced communication mode" and "selectively interleave the first information according to the signal processing operation for communication by

the module based on whether the remote device supports an enhanced communication mode". Other than the arguments regarding Bluetooth, which were addressed above, the arguments do not state why the reference does not teach any other portion of the limitations. Therefore, the examiner states that the El-Maleh reference still teaches selectively convolutionally encoding and selectively interleaving information as shown in col. 9, lines 10-15.

Regarding Claim 15, the applicant argues that the Rasmusson reference does not teach "determining whether a remote Bluetooth device supports an enhanced communication mode". Firstly, the limitation does not state that the Bluetooth device **must** support an enhanced communication mode. It only states that it determines whether or not the Bluetooth device supports an enhanced communication mode. Therefore, even if there is no indication of an enhanced communication mode at all, then it can be determined that the Bluetooth device does not support an enhanced communication mode. Either way, the limitation as currently written is read on by Rasmusson. Secondly, the specification defined the enhanced communication mode as a mode which improves signal quality. That is believed to be taught in pg. 15, lines 11-20 of the Rasmusson as teaching improved performance, and therefore quality, of a signal. That would mean that the Bluetooth device supports an enhanced communication mode.

All the rest of the arguments regarding the other independent claims have been addressed above.

## *Conclusion*

5.      **THIS ACTION IS MADE FINAL.**  Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action.  In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action.  In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to EUGENE YUN whose telephone number is (571)272-

7860.  The examiner can normally be reached on 9:00am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Matthew D. Anderson can be reached on (571)272-4177.  The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Eugene  Yun
Examiner
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/Matthew D. Anderson/
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